Contribution ID: **194** Type: **Poster Presentation**

Electrical Resistivity and magnetic properties of (Ce1□xTbx) Pt2Si2 (0 □ x □ 1)

Wednesday, 13 July 2011 17:00 (2 hours)

<p>Measurements of X-rays diffraction (XRD), electrical resistivity □(T), magnetic susceptibility □(T), and magnetization □(μ0H) are repeated for the pseudo-ternary alloy (Ce1□xTbx) Pt2Si2. XRD results for all the compositions of (Ce1□xTbx) Pt2Si2 system indicate a tetragonal CaBe2Ge2-type structure. □(T) results indicate evolution from coherent Kondo lattice to incoherent single ion Kondo scattering with increase in Tb content up to x=0.8, and followed by a metallic behavior above x = 0.8. □(T) data at high temperatures follow the Currie-Weiss relation for all alloy compositions and give effective moment value μeff which increases gradually from value of 2.54 μB for Ce3+- ion to the expected values of 9.72 μB for Tb3+ -ion. The alloys compositions in the concentration range of 0.7 □ x □1 exhibit antiferromagnetism and the low temperature □(T) data were used to find the Neel temperature TN as a function of x. □(μ0H) data are presented for all investigated compositions.

Level (Hons, MSc,
   PhD, other)?

MSc

Consider for a student
   award (Yes / No)?

Yes

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

No

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